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for the USSR and Satellites

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1. The SAG Geräte-Werke (formerly Siemens und Halske) in Zwönitz near Chemnitz, and the VEB RFT-Köpenick plant Zernsdorf-Messphysik (formerly Mess-Physik Dr. Christian Sörensen) in Zernsdorf near Königswusterhausen are producing galvanometer-oscillographs for delivery to the USSR and the Satellite states. The latter plant was privately owned until August 1951, when it was made a VEB.
2. The galvanometer-oscillograph (multiple-loop oscillograph: Mehrfachschleifen-Oszillograph) measures and records all kinds of oscillations (mechanic, acoustic, electric) up to 10,000 Hertz. The measurement device proper is the measuring loop, which is a mirror galvanometer of low inertia. Since the loop is of small dimensions, several loops can be set up in the device so that a corresponding number of oscillations can be recorded and measured at the same time. A transmitter gauge (Geber) transforms mechanical or acoustic oscillations into electrical energy. Both the Zwönitz and the Zernsdorf plants have produced oscillographs with up to nine loops.
3. Following are the technical specifications of a seven-loop oscillograph produced by the Zernsdorf works:

|                           |                            |
|---------------------------|----------------------------|
| Dimensions                | : 450 by 460 by 1,000 mm   |
| Film velocity             | : 0.15 to 10 meters/second |
| Automatic coiling of film | : up to 20 meters          |
| Voltage                   | : 24 V D.C. or 220 V A.C.  |
| Film width                | : 12 cm                    |
| Film reserve              | : maximum 50 meters        |
| Frequency generator       | : for 100 and 1,000 Hertz  |
| Recording length          | : 0.1 to 2.0 meters        |
| Regulator                 | : for 220 V and 10 Amp.    |
| Weight                    | : about 100 kg.            |

The nine-loop oscillograph produced by the Zernsdorf works has a paper (film) speed of 15 meters/second; the writing speed of the light ray is 600 meters/second.

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4. Following are some of the principal uses of the oscillograph:
- a. Recording of the oscillations of machine parts of machinery installations in power plants;
  - b. Recording of the oscillations of ship structures, bridges, railway tracks, aircraft wings, bodies and motors of automobiles;
  - c. Investigation of tension thrusts (Spannungsstoss) in industrial electrical circuits;
  - d. Investigation of the relays of telephone and telegraph circuits.
5. From 1947 to the end of 1950, the Zernsdorf plant produced and delivered to the USSR as reparations approximately 180 multiple-loop oscillographs. The price of an oscillograph varied between 10,000 and 25,000 DM East according to the number of loops and other technical details, and an average of 1,000 manhours of labor was spent in the completion of one instrument.
6. The Zernsdorf plant currently produces approximately 20 oscillographs per year. They are delivered to the USSR, Czechoslovakia, Poland and China. The customer firm in Czechoslovakia is KOVA, and a research institute in Posen was one of the Polish customers. Since the end of 1950, delivery of oscillographs to Russia has not been included in reparations payments, but has been carried out on an export basis. The instruments were shipped by rail to Technopromimport, Moscow.
7. Some oscillographs have also been delivered to installations in the DDR, including the Bergakademie in Freiberg, the engineer school in Wismar, the institute for oscillation research in Berlin-Adlershof, the transformer works in Berlin-Oberschöneweide and the former AEG Berlin, Am Treptower Park.
8. The Zwicknitz plant produces from 25 to 30 multiple-loop oscillographs per month. They are delivered to the USSR and the Satellite countries.

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